

REMARKS

The Office action mailed on 10 December 2003 (Paper No. 10) has been carefully considered. Allowance of claims 11, 12, 14 thru 17, 19 and 22 (paragraph 5) is appreciated.

Claims 1, 3, 5, 13 and 18 are being amended, and new claim 23 is being added. Thus, claims 1-20, 22 and 23 are pending in the application.

In paragraph 2 of the Office action, the Examiner rejected claims 1, 2, 8 thru 10, 13, 18 and 20 under 35 U.S.C. §102 for alleged anticipation by Chen, U.S. Patent No. 5,350,967. In paragraph 4 of the Office action, the Examiner rejected claims 3 and 4 under 35 U.S.C. §103 for alleged unpatentability over Chen '967. In paragraph 6 of the Office action, it was stated that claims 5 thru 7 were objected to for dependency upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. For the reasons stated below, it is submitted that the invention recited in the claims, as now amended, is distinguishable from the prior art cited by the Examiner so as to preclude rejection under 35 U.S.C. §102 or §103.

Independent claim 1 is being amended to improve its form, and to limit the "first hole portion" to a hole portion "having an elongated shape". In rejecting claim 1 under 35 U.S.C. §102 based on Chen '967, the Examiner (in paragraph 2 of the Office action) pointed to element 112 in Fig. 7 of Chen '967 as corresponding to "a first rectangular indented portion", and also pointed to element 114 as corresponding to "a first hole

portion”.

However, claim 1 does not recite a “first rectangular indented portion” corresponding to element 112 of Fig. 7 of Chen ‘967. Rather, claim 1 recites each one of the first hole regions as including “a first vertically elongated indented portion”. In contrast, Chen ‘967 discloses (in Fig. 7) an indented portion 112 which appears to be horizontally elongated.

As mentioned above, claim 1 (as amended) now recites the first hole portion as “having an elongated shape”. However, Chen ‘967 discloses (in Fig. 7) a hole portion 114 which is circular in shape.

Thus, for the two reasons just stated, a rejection of claim 1 under 35 U.S.C. §102 for direct anticipation by Chen ‘967 is clearly inappropriate since Chen ‘967 does not disclose each of the elements recited in claim 1. Furthermore, since Chen ‘967 does not at all mention any alternative shapes or orientations for the elements 112 and 114 of Fig. 7 thereof, a rejection under 35 U.S.C. §103 for alleged obviousness is also inappropriate.

In paragraph 6 of the Office action, the Examiner indicated that dependent claims 5-7 recited patentable subject matter in that they were objected to merely for dependency upon a rejected base claim.

In paragraph 7 of the Office action, the Examiner stated the reasons for indicating allowable subject matter in claims 5-7 as follows: “the prior art fails to suggest each one of the second hole regions including a second indented portion formed at an output side surface of the screen electrode and a second hole portion formed in the second indented

portion as required in claims 5, 11 and 22” (quoting from paragraph 7 of the Office action).

Accordingly, dependent claim 5 is being amended to appear in independent form. However, in amending claim 5, the recitations from intervening dependent claims 2 and 3 have been omitted as not essential to patentability of amended claim 5. The omission of the recitations from dependent claims 2 and 3 is consistent with the Examiner’s indication, in the Office action, that dependent claims 2 and 3 do not recite patentable subject matter, since the Examiner rejected claims 2 and 3 under 35 U.S.C. §102 based on Chen ‘967. Thus, it is respectfully submitted that amended independent claim 5 and associated dependent claims 6 and 7 recite the invention in a manner distinguishable from the prior art so as to preclude rejection under 35 U.S.C. §102 or §103.

Independent claim 13 is being amended to recite the first hole portion as “having one shape selected from among elongated and square”. In that regard, it is noted that, according to the Examiner’s analysis, Chen ‘967 discloses (in Fig. 7) an indented portion 112 in which a hole portion 114 is positioned. Thus, Chen ‘967 does not disclose or suggest a “first hole portion having one shape selected from among elongated and square” as now recited in claim 13. Rather, Chen ‘967 discloses the hole portion 114 as being merely circular, and there is no suggestion whatsoever in Chen ‘967 that would lead one to change the shape of the hole portion 114 of Fig. 7 to a non-circular shape. For the latter reason, it is submitted that the invention recited in claim 13 is distinguishable from the prior art so as to preclude rejection under 35 U.S.C. §102 or §103.

Independent claim 18 is being amended to recite the first hole portion as “having a square shape”. In contrast, as discussed above relative to claim 13, Chen ‘967 discloses (in Fig. 7) a “first hole portion” 114 which is strictly circular in shape. Thus, Chen ‘967 does not disclose or suggest a “first hole portion having a square shape” as now recited in claim 18. For this reason, it is submitted that the invention recited in claim 18 is distinguishable from the prior art so as to preclude rejection under 35 U.S.C. §102 or §103.

Finally, in the Office action, the Examiner rejected claim 20 under 35 U.S.C. §102 for alleged anticipation by Chen ‘967. However, claim 20 recites a control electrode having first hole regions, each one of the first hole regions including a “first vertically elongated indented portion formed at an output side surface of said control electrode” (quoting from claim 20). In contrast, Chen ‘967 discloses an indented portion 112 (shown in Fig. 7 of the patent) which is horizontally elongated. Since there is no disclosure of a “first vertically elongated indented portion” in Chen ‘967, a rejection under 35 U.S.C. §102 for direct anticipation is clearly inappropriate. Moreover, since Chen ‘967 does not at all discuss any possibility of altering the orientation of the indented portion 114 shown in Fig. 7 of the patent, a rejection under 35 U.S.C. §103 for alleged obviousness is also inappropriate. For this reason, claim 20 recites the invention in a manner distinguishable from the prior art so as to preclude rejection under 35 U.S.C. §102 or §103.

With respect to the orientation of the elongated indentation 112 and the circular

aperture 114 shown in Fig. 7 of Chen '967, it should be noted that Chen '967 purposely limits the orientation of the indentation 112 and the shape of the aperture 114 to the orientation and shape, respectively, shown in Fig. 7. In that regard, Chen '967 states that "each through-hole circular aperture 114 leads to and is continuous with a horizontally oriented elongated indentation 112" (quoting from col. 9, lines 2-9 of Chen '967). Chen '967 then further states that there is a circular shaped indentation 110 disposed about each of the elongated indentations 112, and that the "circular shaped indentation 112 and the through-hole circular aperture 114 are aligned along a common axis to permit an electron beam to transit the G₁ electrode 34" (see col. 9, lines 5-11 of Chen '967). Finally, Chen '967 states that each "through-hole circular aperture 114 has a diameter less than or equal to the shorter side of its associated elongated indentation 112" (quoting from col. 9, lines 11-13 of the patent).

Thus, it is clear that Chen '967 expressly discloses a horizontally oriented elongated indentation 112 and a circular aperture 114, and "teaches away" from any other orientation or shape of the indentation 112 and the aperture 114, respectively. With respect to the orientation of the elongated indentation 112, one further point is worth noting. Specifically, Chen '967 expressly states that, in Fig. 10, "there is shown the manner in which each of the elongated indentations 112 over-focus a respective electron beam in a horizontal direction (X-axis of electron gun) and under-focus the beam in a generally vertical direction (Y-axis of electron gun)" (quoting from col. 9, lines 14-18 of the patent). Thus, it is clear that the orientation of the elongated indentation 112 (that is,

its horizontal orientation) is very important to Chen '967, and this constitutes a further "teaching away" from any other orientation of the indentation 112.

With respect to the orientation of the elongated indentation 118 and the circular aperture 120 associated with the screen grid 36 shown in Fig. 12 of Chen '967, a similar observation applies. That is, in Chen '967, it is stated that each "through-hole circular aperture 120 is aligned with and centered on its associated elongated indentation 118", and that each circular aperture 120 has a diameter which is equal to or less than a shorter side of its associated elongated indentation 118, each of the elongated indentations 118 having "its longitudinal axis aligned generally vertically" (see col. 9, lines 60-66 of Chan '967). Thus, it is clear that, once again, Chen '967 specifically and precisely states the orientation of the indentation 118 and the shape of the aperture 120, and effectively "teaches away" from any other shape or orientation of those elements.

A fee of \$86.00 is incurred by the addition of one (1) independent claim in excess of 8. Applicant's check drawn to the order of Commissioner accompanies this Response. Should the check become lost, be deficient in payment, or should other fees be incurred, the Commissioner is authorized to charge Deposit Account No. 02-4943 of Applicant's undersigned attorney in the amount of such fees.

In view of the above, it is submitted that the claims of this application are in condition for allowance, and early issuance thereof is solicited. Should any questions

remain unresolved, the Examiner is requested to telephone Applicant's attorney.

Respectfully submitted,



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